



RALPH OLIVER KOITZ

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I am a trained chemist with a broad background in experimental and computational research and a highly quantitative and analytical approach to problem solving. I enjoy working on challenging tasks with great attention to detail and high personal commitment. 5+ years of experience as a successful researcher have made me an efficient project manager, fast learner, and excellent communicator. My work in the pharmaceutical industry has given me experience with applicable regulations and Good Manufacturing Practice.



Personal Data

Date of birth 08.11.1986
Nationality Austrian (Swiss work permit C)
Civil status Married



Professional Experience

- from 07/2016
- Technical Author – Bachem AG, Bubendorf, Switzerland**
 - Responsible for creating and maintaining regulation-compliant documentation for many aspects of active pharmaceutical ingredients production, including master batch production records, risk analyses (FMEA) and standard operating procedures.
 - 11/2015 – 06/2016 **Research Associate – NCCR Materials Revolution and University of Zurich**
 - Designed and implemented an automated database-assisted system to test and improve accuracy of computational methods for materials simulations.
 - 09/2011 – 10/2015 **Course Assistant – University of Zurich, Switzerland**
 - Taught lectures, lab courses, and exercise classes with up to 24 students.
 - Supervised extended student projects and MSc theses.
 - 06 – 09/2014 **Visiting Researcher – Stanford University, USA**
 - 06 – 08/2011 **Researcher – Norwegian University of Science and Technology, Trondheim, Norway**
 - 07 – 09/2010 **Research & Development Intern – Bayer Technology and Engineering, Shanghai, China**
 - 03 – 05/2009 **Research & Development Intern – Bayer Technology Services, Leverkusen, Germany**



Education

- 09/2011 – 10/2015 **PhD in Computational Chemistry**
University of Zurich (UZH), Switzerland
 - Research topic: Structure and functionality of two-dimensional materials
 - Utilized large-scale supercomputing facilities and developed software for the simulation of novel materials. Carried out extensive data analyses with various tools and collaborated internationally to elucidate experimental findings and predict new materials with improved properties.
- 09/2009 – 05/2011 **MSc (Distinction) in Advanced Materials Science (grade 1.1 ≈ 6.0 Swiss)**
Munich University of Technology (TUM), Germany.
- 10/2006 – 03/2009 **BSc (Distinction) in Chemistry (grade 1.2 ≈ 6.0 Swiss)**
University of Graz, Austria.
- 10/2005 – 10/2006 **Military Service (Rank: Sergeant)**
12 months extended military service, reserve officers' training in NBC Defense.
- 09/2001 – 06/2005 **High School (Distinction) - Mathematics and Informatics Majors (grade 1.0 = 6.0 Swiss)**
Bundesgymnasium Mössingerstrasse, Klagenfurt, Austria.



IT Skills and Further Competences

- Software
 - MS Office: PowerPoint, Excel, Word
 - Windows and Linux Operating Systems (LPI Certification, 2014)
 - Git, Subversion
- Programming
 - General: Python (with scipy, scikit-learn), Fortran, C++
 - Scripting and Web development: Bash, Perl, HTML, PHP
 - Typesetting: LaTeX
- Data Science
 - Databases: SQL and NoSQL (MongoDB) usage and administration
 - Data analysis with R and Python
 - Visualization: Matplotlib, VisIt/VTK
- Further Competences
 - 5+ years of experience with data analysis using various tools and models
 - 7+ years of successful work in multinational cross-functional teams of 3-10 members
 - 5+ years of experience with scientific and high-performance computing
 - 5+ years of managing research projects, documenting results, and writing proposals
 - Goal-driven, innovative and multitasking problem solving: e.g., my entire PhD project
 - Expert presentation skills: numerous invited and contributed talks at international events
 - Effective scientific writing: 7 first/last-author papers and 5 co-authorships in peer-reviewed journals (>230 citations, h-index 7), see Google Scholar profile
 - Leadership, initiative and project management (see below)



Leadership and Volunteering

- 2013–2015 Led organizing committee (6 members) for university PhD retreat (100 participants): Redesigned the event, distributed and coordinated tasks, set and enforced deadlines
- 2010 Led a product development team (6 members) during an intensive start-up course: Coordinated design process, prototyping and business plan, led stakeholder interviews
- 2008–2010 Held leadership roles in student organizations:
 - Bonding Students' Initiative, Munich: International Relations Responsible
 - Board of European Students of Technology (BEST), Graz: Secretary
- 2005–2007 Experience as squad leader and military instructor



Languages

- German: Native
- English: Full professional proficiency
- Czech: Fluent
- Italian: Intermediate



Grants and Awards

- 2016 "Forschungspreis" for outstanding dissertation awarded by IBM Research Zurich
- 2014 "Junior Researcher Promotion" grant from the Japanese High-Performance Computing Initiative: received 2.9 million CPU hours on the K supercomputer (value ~250'000 EUR)
- 2014 Best Poster award at PASC2014 Conference, Zurich
- 2014 Travel awards from chemistry graduate school and Swiss Academy of Sciences
- 2010–2011 Max Weber fellowship of the Elite Network of Bavaria
- 2006–2008 Dean's merit scholarship for academic excellence at University of Graz
- 2005, 2006 Bronze medals at the International Chemistry Olympiads in Germany and Taiwan



Hobbies

- International travel
- Mountain trekking
- New technologies